

REMARKS/ARGUMENTS

Status of Claims

Claims 1-35 are pending. Claims 1, 10, 19 and 27 are currently amended.

Allowable Subject Matter

The Examiner is thanked for indicating that objected-to claims 2-7, 9, 11-16, 18, 20-25, 28-33 and 35 would be allowable if rewritten in independent form including all of the limitations of the base claims. However, in view of the remarks presented below, the Applicants believe that all claims are allowable.

Drawings

Applicants respectfully traverse this objection.

In the previous amendment, filed on March 29, 2007, Applicants amended Figure 3 to illustrate that Delay 314-1 creates the output signal $y(n)$ delayed as much as 1, and Delay 314-N creates the output signal $y(n)$ delayed as much as N. Applicants submit that this amendment is properly supported on page 8, lines 6-18 of the specification.

Applicants respectfully request withdrawal of the objection to the drawing.

Claim Objection

The Examiner maintains the objection to the language in limitation (f) of claim 19 and suggested that the language be changed to improve clarity of the limitation, however, the Examiner fails to describe the language that is unclear. Applicants previously amended claim 19 in an effort to add clarity.

Applicants submit that amended claim 19 overcome the objection and respectfully request withdrawal of the objection.

Applicants respectfully request the Examiner to specifically describe the language that is unclear or request withdrawal of the objections to the claims for the informality to claim 19.

Rejection under 36 USC § 112

The Examiner rejected claims 1, 10, 19 and 27 under 35 USC § 112, first paragraph for failing to comply with the written description requirement for containing subject matter which was not described in the specification, at the time of the invention. Applicants respectfully traverse this rejection.

Applicants submit that amended claim 1, 10, 19 and 27 overcome the rejection and respectfully request withdrawal of the rejection.

Rejection of claims 1 and 10 under 35 U.S.C. §103(a) as obvious over Whitecar (US 6055318) in view of Gothe et al (US 6049577) and further in view of Ferguson (US 6907143), Liu (Modified Autocorrelation Method Compared With Maximum Entropy Method and RF Cross Correlation as Mean Frequency Estimator for Doppler Ultrasound, 1991 Ultrasonics Forum, pages 1285-1290) and Massie et al (US 5943427)

Regarding amended independent claim 1 and 10, Applicants' claimed method and apparatus for determining first and second filter coefficient in a noise elimination filter comprise a unique combination of features. Applicants respectfully submit that no combination of Whitecar, Gothe, Ferguson, Liu and Massie, teaches, discloses, suggests or renders obvious, the unique combination of features as claimed in Applicants' method and apparatus.

Amended claim 1 describes a method for determining first and second filter coefficients considering the detected noise level and the detected channel speed prediction information in a noise elimination filter, and amended claim 10 describes an apparatus for determining first and second filter coefficients considering the detected noise level and the detected channel speed prediction information in a noise elimination filter.

Claims 1 and 10 include determining first and second filter coefficients required for eliminate noise components from a noise elimination filter considering the noise level and the channel speed prediction information at one time. This feature is clearly described in the amended claim the relation between the first and the second filter coefficients as "wherein the higher the first filter coefficient, the lower the second filter coefficient, whereas the lower the first filter coefficient, the higher the second filter coefficient" in Claims 1 and 10.

Whitecar in view of Gothe, Ferguson, Liu and Massie does not teach, disclose, suggest or render obvious the instantly claimed features including *detecting a noise level upon receiving a*

difference between the predicted channel response signal and a previously predicted channel response signal, and detecting channel speed prediction information upon receiving an auto-correlation function of the predicted channel response signal, and determining first and second filter coefficients mapping-processed by the detected noise level and the detected channel speed prediction information.

Whitecar does not teach *determining first and second filter coefficients mapping-processed by the detected noise level.*

Gothé does not teach *predicted channel response and detecting a noise level upon receiving a difference between the predicted channel response signal and a previously predicted channel response signal.*

Liu does not teach *detecting channel speed prediction information upon receiving an auto-correlation function of the predicted channel response signal.*

The cited references, alone or in combination, fail to disclose, teach or suggest the amended feature *wherein the higher the first filter coefficient, the lower the second filter coefficient, whereas the lower the first filter coefficient, the higher the second filter coefficient.*

The cited prior art merely shows determining filter coefficients considering only noise level and determining filter coefficients considering only channel speed prediction information.

Accordingly, amended claims 1 and 10 are allowable.

Rejection of claims 8, 17, 26 and 34 under 35 U.S.C. §103(a) as obvious over Whitecar (US 6055318) in view of Gothé et al (US 6049577) and further in view of Ferguson (US 6907143), Liu (Modified Autocorrelation Method Compared With Maximum Entropy Method and RF Cross Correlation as Mean Frequency Estimator for Doppler Ultrasound, 1991 Ultrasonics Forum, pages 1285-1290), Massie et al (US 5943427) and Gandhi (US 6263354)

Applicants respectfully traverse this rejection.

First, claims 8, 17, 26 and 34 are allowable at least because they depend on allowable base claims 1, 10, 19 and 27.

Additionally, Gandhi does not supply at least the Examiner's noted deficiencies to Whitecar. Therefore, dependent claims 8, 17 and 34 would not have been obvious from any reasonable combination of Whitecar, Gothé, Ferguson, Liu, Massie and Gandhi. Accordingly,

the Applicants respectfully request the withdrawal of the rejection of dependent claims 8, 17 and 34 for the same reasons as their base independent claims.

Regarding rejection of dependent claim 26, the Examiner points to the rejection as similarly analyzed as claim 8 using Whitecar in view of Gothe, Ferguson, Liu, Massie and Gandhi. Applicants respectfully maintain that this rejection is in error because claim 26 depends on independent claim 19, which is rejected using different references than the base claim for dependent claim 8. Namely, claim 19 uses the Whitecar, Gothe et al, Liu, Massie, Conner and Ito references. In any case, the Applicants respectfully assert that no combination of Whitecar, Gothe, Ferguson, Liu, Massie, Connor, Ito and Gandhi, however applied, teaches, discloses, suggests or renders obvious the instantly claimed features of claim 26, at least for the reasons stated in the response to independent base claim 19 (see below), from which claim 26 depends. Accordingly, the Applicants respectfully maintain the request of the withdrawal of the rejection of dependent claim 26.

Claims 17 and 34 are allowable at least for similar reasons as claims 19 and 26 above.

Claims 8, 17, 26 and 34 are allowable for at least these reasons.

Rejection of claim 19 and 27 under 35 U.S.C. §103(a) as obvious over Whitecar (US 6055318) in view of Gothé et al (US 6049577) and further in view of Liu (Modified Autocorrelation Method Compared With Maximum Entropy Method and RF Cross Correlation as Mean Frequency Estimator for Doppler Ultrasound, 1991 Ultrasonics Forum, pages 1285-1290) Massie et al (US 5943427), Conner et al (US 4450445) and Ito (US 20020009128)

Regarding amended independent claim 19, Applicants' claimed method for receiving a common pilot channel signal at an adaptive channel estimator of a mobile communication system comprises a unique combination of features. Applicants respectfully submit that no combination of Whitecar, Gothe, Liu, Massie, Conner et al and Ito, teaches, discloses, suggests or renders obvious, the unique combination of features as claimed in Applicants' method.

Amended claims 19 and 27 include determining first and second filter coefficients required for eliminate noise components. This feature is clearly described in the amended claim the relation between the first and the second filter coefficients as "wherein the higher the first

filter coefficient, the lower the second filter coefficient, whereas the lower the first filter coefficient, the higher the second filter coefficient” in Claims 19 and 27.

The references, alone or in combination do not teach, disclose, suggest or render obvious the claimed features including *multiplying a complex conjugate of a corresponding pilot symbol by the common pilot channel signal, and outputting a predicted fading channel response signal, detecting a noise level contained in the predicted fading channel response signal, detecting a channel speed of the common pilot channel signal on the basis of the predicted fading channel response; comparing the detected noise level with at least one first reference value, comparing the detected channel speed with at least one second reference value, determining first and second filter coefficients mapped to an area corresponding to the comparing result among first and second filter coefficients being mapping-processed for every area assigned by the first and second reference values to be filter coefficients for noise elimination, said first and second filter coefficients being mapping-processed for every area assigned by the first and second reference values, and removing a noise component from the predicted fading channel response signal using the determined first filter coefficient and the determined second coefficient wherein the higher the first filter coefficient, the lower the second filter coefficient, whereas the lower the first filter coefficient, the higher the second filter coefficient.*

Whitecar does not teach *determining first and second filter coefficients mapping-processed by the detected noise level.*

Gothel does not teach *predicted channel response and detecting a noise level upon receiving a difference between the predicted channel response signal and a previously predicted channel response signal.*

Liu does not teach *detecting channel speed prediction information upon receiving an auto-correlation function of the predicted channel response signal.*

The Examiner rejects claim 27 along similar lines as claim 19. Accordingly, Applicants' remarks about claim 27 are similar to the remarks of claim 19, above.

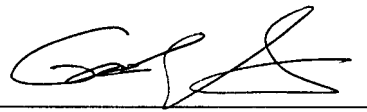
Accordingly, amended claims 19 and 27 are allowable.

Conclusion

In view of the above, it is believed that the above-identified application is in condition for allowance, and notice to that effect is respectfully requested. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: October 17, 2007

A handwritten signature in black ink, appearing to read 'Gautam Sain', is written over a horizontal line.

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